**Black Friday Sales Prediction**

**PROBLEM STATEMENT**

Predicting customer behavior from previous sales help in targeting and reaching estimated sales in various fields like finance, sales, marketing. This analysis helps us in predicting the purchase amount of customer against various products. Which in turn helps in creating offers for a particular range of customers. For instance, if we take the electronics category, past sales reveal there are a more customers under the age group of 40. So, applying offers in that specific range of age groups helps in the sales market and they can come up with new offers that can attract customers from other age ranges.

Machine Learning analytics helps us achieve this. By building such predictive models, we can predict the impact of the decisions taken on the growth of our organization.

In this project, we are going to predict how much the customers will spend during Black Friday, using various features such as age, gender, marital status. For this we will be using different machine learning algorithms like Linear Regression, Decision Tree, Random Forest.

**FEATURES**

User\_ID: Unique Id of customer

Product\_ID: Unique Id of product

Gender: Sex of customer

Age: Age of customer

Occupation: Occupation code of customer

City\_Category : City of customer

Stay\_In\_Current\_City\_Years: Number of years of stay in city

Marital\_Status: Marital status of customer

Product\_Category\_1: Category of product

Product\_Category\_2: Category of product

Product\_Category\_3: Category of product

Purchase: Total amount purchase

**COMBINATION OF FEATURES**

No. In comparison to combining the features with those that already exist, the features taken into consideration above will produce better results.

**OUTPUT/ANSWER**

The above taken features will help us derive different kinds of prediction purchase amount.

By evaluating the relation between different other features and purchase amount we can provide more prediction analysis.

**DATASET**

Primary dataset: <https://www.kaggle.com/datasets/kkartik93/black-friday-sales-prediction>

Supporter dataset: <https://www.kaggle.com/code/sourabhgumtaj/black-friday-eda-sourabh-gumtaj/data>

As there are ample features to support the predictions, primary dataset is efficient enough for our project. But going further for any other references the supporter dataset can be used.